EPA comments on SDDL DQO summary, submitted Oct. 26, 2012

November 2, 2012

General comment: An underlying assumption that seems to drive much of the DQOs as written is that contaminated groundwater within the Site boundaries might be due to off-site sources. There seems to be an intention to trace every action level exceedance back to its origin, and in a mixed landfill where we don't really know what went where, that is not going to be possible. For the lower aquifer, as discussed in the comment below regarding the conceptual site model, historical groundwater pumping in the region could have pulled contaminants north from the site, which could then flow south after the pumping activities ceased. Rather than assuming that lower-aquifer contaminants migrating from north of the site originates from an upgradient source, a DQO that address this situation might be needed.

Section 1 and general comment: There appears to be a difference in perspectives on the scope of the DQO analysis, or the problem statement in general. EPA, in consultation with Ohio EPA, postponed the remedy decision for OU1 because they had determined that there was not enough information to develop remedial alternatives for the ground water containment portion of the presumptive remedy. One way to address this would be to make this the problem basis for the DQOs. Then for the goals (Step 2), perhaps the study questions would be identifying contaminated groundwater onsite which need to be contained, identifying any gaps in data needed to inform the containment technology decision, and then also investigating the on-Site areas of concern and data gap areas.

Section 1.i and general comment: As containment of groundwater is still the current presumed remedy for OU1, EPA sees source characterization as secondary to understanding the potential off-site migration of contaminated groundwater, so we would include as areas of concern the property boundaries where there isn't enough information. This would include an evaluation of the current monitoring network. As a rough estimate, more information appears to be necessary along the southern boundary, and possibly also along the river. The proposed scope of groundwater investigation is focused on the shallow groundwater. The investigation will need to evaluate the potential off-site migration of contamination in deeper groundwater, from areas that may not be related to the list of "OU1 shallow on-Site groundwater areas of concern."

Section 1.i: The list of data gaps should include the areas of the large pond and landfill entrance #3, which was reportedly where drums were dumped (according to the Grillot disposition) but have not been investigated.

Temporary Geoprobe wells may not be the best way to investigation the soil contamination and geophysical anomaly data gaps. Test trenching should be considered for these areas.

Section 1.iii: The conceptual site model should be more comprehensive. Because we have a lot of data characterizing the site already informing the CSM, more description should be included here which would provide some context for the data gaps and the questions we are now asking.

Specifically, the CSM should include a description of historic groundwater flow in the Lower Aquifer, as shown in the 1960 USGS study. The cone of depression caused by the DP&L well and additional wells to the NE could have been responsible for Site contaminants to migrate to

the N-NE for some number of years and then reversing direction as the Lower Aquifer groundwater flow is now to the SW.

In general, the CSM in the DQO table appears to be limited to the groundwater pathway. It would be helpful to have an overall CSM for the site, expanded to capture all media and exposure pathways. This would help inform decisions and guide site actions.

Section 2.i: EPA sees the primary study question for the DQO as, "Do on-site sources exist that will impair the containment of contaminated groundwater?" An on-site source that is not causing off-site migration probably doesn't need more characterization. We are still operating under a presumptive remedy of containment.

Section 3: The overall purpose of the investigation is to collect information necessary to select an appropriate containment portion of the remedy. We should identify the data inputs, such as other soil or aquifer physical or chemical parameters or characteristics, needed for that decision. If data gaps are present, this may need a separate DQO.

Section 3.i: PCBs should be included in the list of analytes.

Section 3.iii: What do "Action Levels" mean in this context? Here, they don't seem to take into account that we would look at the cumulative risk from multiple contaminants, or that screening levels for carcinogens are at the $10^{-6}$ risk level, not the entire acceptable cleanup range ($10^{-6}$ to $10^{-4}$).

Section 4.iii: The Phase 1B and 2B temporal boundaries only specify two sampling events. Additional detail should be included as two when the events will occur (e.g. season of high and low groundwater) and how seasonal groundwater flow fluctuations will be evaluated and demonstrated.

Section 6.i.a: Phase 1B and 2B indicate comparing groundwater concentrations to "action levels" but do not include details as to how the comparisons will be made. For example, if two sampling events are to be conducted (see comments on Section 4), then what is the evaluation process for results exceeding during only one event, o if the results increase from one even to the next? Will historical data also be used to establish trends?

Section 7.i: Phase 1B and 2B state that wells will be installed in areas of "potentially unacceptable risk" or where "significantly elevated" concentrations are found. As a risk assessment is not being performed at this state, how is risk defined? And what does "significantly elevated" mean?